

Rec'd PCT/PTO 23 JUL 2004

10/502328

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
31 July 2003 (31.07.2003)

PCT

(10) International Publication Number
WO 2003/061589 A3

(51) International Patent Classification⁷: **C12N 5/06**

(21) International Application Number:
PCT/US2003/001816

(22) International Filing Date: 23 January 2003 (23.01.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/350,032 23 January 2002 (23.01.2002) US
60/349,982 23 January 2002 (23.01.2002) US
60/349,983 23 January 2002 (23.01.2002) US

(71) Applicant (for all designated States except US): **CEL-SCI CORPORATION** [US/US]; 8229 Boone Boulevard, Suite 802, Vienna, VA 22182 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ZIMMERMAN, Daniel, H.** [US/US]; 5527 Oakmont Avenue, Bethesda, MD 20878 (US). **CHAROENVIT, Yupin** [US/US]; 2833 Schoolhouse Circle, Silver Spring, MD 20902 (US). **ROSENTHAL, Kenneth, S.** [US/US]; 320 Harvest Drive, Akron, OH 44333 (US). **WHELAN, Mike** [GB/GB]; 29 Mill Street, Steventon Oxon, OX13 6SP (GB).

(74) Agent: **HAHN, Roger, C.**; Sherman & Shalloway, 413 North Washington Street, Alexandria, VA 22314 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
27 May 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHODS FOR TREATING DISEASES OR CONDITIONS WITH PEPTIDE CONSTRUCTS

(57) Abstract: This invention relates to peptides directing a CD4 related T helper cell response wherein the peptides may be used as an adjuvant provided with an antigen or as an immunomodulatory agent without an antigen and compositions comprising modification of a fifteen-mer peptide sequence from the MHC II β chain at positions 135-149 known as Peptide G or a derivative of derG or other derivatives wherein the derivatives enhance the immune response of antigens and methods for treating cancer, autoimmune disease, transplant conditions, infectious conditions or allergies caused by foreign eukaryotic organisms, and infectious conditions or allergies caused by prokaryotic organisms or nonliving agents such as viruses, phages and prions with polypeptides.



WO 2003/061589 A3

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US03/01816

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12N 5/06

US CL : 435/334, 343.2, 344

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/334, 343.2, 344

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 DIALOG, MEDLINE, EMBASE, CA SEARCH: immunomodulatory agent, MHC class II, peptide G, CD4, T cell

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,106,840 A (CLARK et al) 22 August 2000 (22.08.2000), claims.	1-18
Y	US 6,224,870 B1 (SEGALI) 1 May 2001 (01.05.2001), claims.	1-18

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "B" earlier application or patent published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

20 March 2004 (20.03.2004)

Date of mailing of the international search report

06 APR 2004

Name and mailing address of the ISA/US

Mail Stop PCT. Attn: ISA/US
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450

Facsimile No. (703)305-3230

Authorized officer

James Housel

Telephone No. 703-308-1235

J. D. R. for